

THE EFFECT OF PRENATAL EXPOSURE TO ENDOCRINE DISRUPTING CHEMICALS (EDCS) ON THE DEVELOPMENT OF MACAQUE SOCIALIZATION.

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We are investigating the effect of prenatal exposure to endocrine disrupting chemicals (EDCs) on the social development of two species of macaques (*mulatta* and *fascicularis*). There is no reliable body of research or evidence that EDCs such as dioxin, bisphenol A (BPA) and polychlorinated biphenyls (PCBs) affect the central nervous system (CNS). We evaluated the relationships between these chemicals and behavioral characteristics in both mother-infant or peer interactions in order to clarify the effect of EDCs on the CNS. All primiparous monkeys were singly housed in stainless-steel cages based on the NIH guidelines (69 cm x 61 cm x 75 cm) during their pregnancy and offspring-care period. Animals were supplied with daily solid diet and water ad libitum. The offspring was separated from the mother after weaning and singly housed from 6 until 12 months of age. We found smaller effects of 2, 3, 7, 8-tetrachlorodibenzo-p-dioxin (2, 3, 7, 8-TCDD) than expected, but serious effects of BPA and PCBs. BPA prevents behavioral sex differentiation in infants, and PCBs suppress their social initiative in mother-infant and peer interactions. These studies proved that the observation paradigm method was available and helpful for assessing the subtle influence of EDCs in the brains of higher primates.

Keywords: EDCs, macaque, mother-infant interaction, peer interaction